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EXAMINER

MARTINEZ, DAVID E

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| ART UNIT | PAPER NUMBER |
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2182

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/872,936

Applicant(s)

CHERUKURI ET AL.

Examiner

David E. Martinez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,27-33 and 41-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,27-33,41-43,49-51,57 and 58 is/are rejected.
- 7) ☒ Claim(s) 44-48 and 52-56 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 27, 57 and 58, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regards to claim 1, the newly amended limitation of "admitting the data packet into the memory buffer associated with a group identified by the determined admittance group identifier", it renders the claim indefinite and unclear. It is not understood if it is the data packet or the memory buffer that it is being referred to and is being associated with a group identified by the determined admittance group identifier. Is the whole memory buffer associated with only a single group identified by the group identifier? What about the other packets that are being received and are identified by a different group identifier (such as the ones coming in from a different port), where do they get buffered into? Is there an additional buffer where they get stored?. In what other memory buffer do they get stored since the only one that is available, is currently storing the packets associated with only one type of group identifier? Perhaps they don't get stored?

With regards to claims 27, 57 and 58, they suffer from the same deficiencies as those of claim 1 above and thus rejected under the same rationale.

Due to the vagueness and a lack of clear definiteness in the claims, the claims have been treated on their merits as best understood by the examiner.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 27-31, 41-43, 49-51, 57 and 58, are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,862,280 to Bertagna in view of US Patent No. 6,678,248 to Haddock et al. (Haddock).

With regards to claims 1 and 27, Bertagna teaches a method for controlling admittance of a data packet into a memory buffer the method comprising:

performing, prior to queuing the data packet for routing by a processor [column 9 lines 4-20], the following:

receiving a data packet from one of at least two different ports [column 3 lines 44-50];

determining a priority value within the data packet [abstract, column 1 lines 23-28, column 1 lines 35-41, column 8 lines 57-67]; and

determining an admittance group identifier for the data packet based on the priority value and the port the data packet was received [column 6 lines 39-47, column 8 lines 57-67 – the outbound tag priority is based on both a priority value and a port received id]; and

admitting the data packet into the memory buffer associated with a group identified by the determined admittance group identifier []; and

queuing the data packet from the memory buffer to one of a number of queues for routing by the processor [column 9 lines 4-20]

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Bertagne teaches all the of the above limitations but is silent as to queuing the packet upon determining that a number of data packets stored in the memory buffer and having the admittance group identifier is not greater than a threshold value associated with the determined admittance group identifier, however, Haddock teaches queuing a packet upon determining that a number of data packets stored in the memory buffer is not greater than a threshold value for the benefit of preventing a buffer overflow and to keep the flow of packets within an accepted maximum delay [column 9 lines 53-57].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of both Bertagna and Haddock to queue the packets upon determining that a number of data packets stored in the memory buffer and having the admittance group identifier is not greater than a threshold value associated with the determined admittance group identifier for the benefit of preventing a buffer overflow.

1. With regards to claims 2 and 28, Haddock teaches the method of claim 1, further comprising discarding the data packet upon determining that the number of data packets stored in the memory buffer and having the admittance group identifier is greater than the threshold value [column 9 lines 53-57] for the same reasons as claims 1 and 27 above.

2. With regards to claims 3 and 29, Bertagna teaches the method of claim 1, wherein determining the priority value within the data packet is based on classifying the data packet as one of a number of packet formats [column 4 lines 1-36, column 9 lines 4-20].

3. With regards to claim 4 and 30, Bertagna the method of claim 3, wherein classifying the data packet received from one of the at least two different ports comprises classifying the data packet using instructions in a number of instruction

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streams, wherein each of the number of instruction streams are associated with one of the number of packet formats [column 9 lines 4-20].

4. With regards to claim 5 and 31, Bertagna teaches the method of claim 4, wherein the number of packet formats are selected from the group consisting of Internet Protocol and Ethernet [column 4 lines 1-36].

Claims 6-7 and 32-33, are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,862,280 to Bertagna in view of US Patent No. 6,678,248 to Haddock et al. (Haddock) as applied to claims 1-5 and 27-31 above, and further in view of US Patent No. 6,717,951 to Stanton et al.

5. With regards to claim 6 and 32, the combination of Bertagna and Haddock is silent as to determining the admittance group identifier includes traversing a table of admittance group identifiers based on the priority value and the port that the data packet was received from, however, Stanton teaches determining the admittance group identifier includes traversing a table of admittance group identifiers based on the priority value and the port that the data packet was received for the benefit of allowing the method to be programmable [abstract, column 3 lines 12-25].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Bertagna, Haddock and Stanton to determining the admittance group identifier includes traversing a table of admittance group identifiers based on the priority value and the port that the data packet was received for the benefit of allowing the method to be programmable.

6. With regards to claim 7 and 33, Bertagna teaches the method of claim 6, further comprising selectively outputting the data packets from the memory buffer through the number of queues based on the admittance group identifier [abstract, column 9 lines 4-20].

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7. With regards to claims 41 and 49, Haddock teaches wherein the data packet is admitted into the memory buffer if a number of data packets within a group identified by the admittance group identifier that are already admitted into the memory buffer does not exceed the threshold value associated with the respective group [column 9 lines 53-57] for the same reasons as claims 1 and 27 above.

8. With regards to claims 42 and 50, Haddock teaches wherein data packets of each group admitted into the memory buffer are limited to a predetermined maximum number of packets associated with each group, and wherein subsequent additional data packets are discarded if the associated group contains the predetermined maximum number of packets [column 9 lines 53-57] for the same reasons as claims 1 and 27 above.

9. With regards to claims 43 and 51, Haddock teaches wherein data packets of each group admitted do not exceed the predetermined number of packets associated with the respective group before being queued into one of the queues and processed by the processor for routing of the respective group [column 9 lines 53-57] for the same reasons as claims 1 and 27 above.

Allowable Subject Matter

Claims 44-48 and 52-56 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 4/28/05 have been fully considered but they are not persuasive.

With regards to claims 1 and 27, applicant argues that "There is no admittance process into a memory buffer based on the priorities of the data packets prior to the

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switching engine transmitting the data onto the buses" [remarks page 13 lines 23-25].

Examiner respectfully disagrees. Bertagna teaches on column 9 lines 4-20, steps 1520-1540 the determining of packet information before storing the packet in priority queues. While this packet information determination is taking place, that packet must be stored in a memory buffer since it has not yet been stored in it's final destination (priority queue).

With regards to the arguments directed to the threshold in the remarks, page 13, lines 26-29, The examiner relies on the Haddock reference [column 9 lines 53-57] to teach the limitation, and not the Bertagna reference. The combination is fully explained above under the claim 1 rejection. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

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In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the benefit of preventing a buffer overflow is knowledge generally available to one of ordinary skill in the art. Anytime anyone deals with buffers and queues in general, one must take that into account. And as for the benefit of keeping the flow of packets within an accepted maximum delay [column 9 lines 53-57], this benefit is explicitly found in the prior art of record.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David E Martinez whose telephone number is (571) 273-4152. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A Gaffin can be reached on (571) 272-4146. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DEM



KIM HUYNH
PRIMARY EXAMINER
6/27/05